### (19) World Intellectual Property Organization International Bureau



## 

(43) International Publication Date 6 January 2005 (06.01.2005)

#### **PCT**

# (10) International Publication Number WO 2005/001123 A1

(51) International Patent Classification7:

\_\_\_\_

C12Q 1/68

(21) International Application Number:

PCT/CN2003/000580

(22) International Filing Date:

18 July 2003 (18.07.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 03148529.4

30 June 2003 (30.06.2003) C1

(71) Applicants (for all designated States except US): TS-INGHUA UNIVERSITY [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). CAPITAL BIOCHIP COMPANY, LTD. [CN/CN]; Jia N° 2, Qinghua West Road, HaiDian, Beijing 100084 (CN).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GAO, Huafang [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). MA, Xuemei [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). ZHANG, Chi [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). CHEN, Qian [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). ZHOU, Ylmlng [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). WANG, Dong [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). ZHANG, Yizhe [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). TIAN, Yue [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). Tsinghua University, HaiDian, Beijing 100084 (CN).

ZHANG, Rul [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). LAN, Gengxin [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). ZHOU, Yuxlang [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN). CHENG, Jlng [CN/CN]; Tsinghua University, HaiDian, Beijing 100084 (CN).

(74) Agent: JEEKAI & PARTNERS; Suite 602, Jinyu Tower, A129 West Xuan Wu Men Street, Beijing 100031 (CN).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DNA CHIP BASED GENETIC TYPING

(57) Abstract: This invention relates generally to the field of nucleic acid analysis. In particular, the invention provides a method for typing a target gene, using, inter alia, a chip comprising a support suitable for use in nucleic acid hybridization having immobilized thereon an oligonucleotide probe complementary to said target nucleotide sequence and at least one of the following oligonucleotide control probes: a positive control probe, a negative control probe, a hybridization control probe and an immobilization control probe. Oligonucleotide probes or probes arrays for typing a HLA target gene are also provided.

